

# **Obstacles to Regional Trade in the Horn of Africa:**

## **Borders, Markets, and Production**



by  
**Laura Hammond**  
Clark University

**February 2003**

Funded by USAID/OFDA  
Under USDA/USAID RSSA # AOT-R-00-95-00085-00



## Table of Contents

|   |     |
|---|-----|
| Foreword.....   | v   |
| Acknowledgements .....  | vii |
| Acronyms.....   | ix  |
| Photos .....  | xi  |
| 1.1 The Geopolitics of Borders .....  | 2   |
| 1.2 Plenty of Food in Some Places, Not Enough in Others.....                          | 3   |
| 2. Eritrea Food Picture.....  | 5   |
| 2.1 2002 Agricultural season.....   | 7   |
| 2.2 Refugee repatriation .....  | 7   |
| 2.3 Eritrean Government's "Struggle for Development" .....                            | 8   |
| 2.4 Grain Prices High .....   | 8   |
| 2.5 Imported Food Aid .....   | 9   |
| 3. Ethiopia food security situation .....   | 11  |
| 3.1 Surpluses piling up at Humera .....   | 12  |
| 3.2 Limited marketing possibilities.....  | 15  |
| 3.3 Structural changes in Tigray governance.....                                      | 16  |
| 4. Ethiopia/Eritrea trade .....   | 19  |
| 5. Eritrea/Sudan trade .....  | 23  |
| 6. Ethiopia/Sudan trade .....   | 25  |
| 7. Conclusion and Recommendations .....   | 29  |
| 7.1 Improvement of market information systems.....                                    | 29  |
| 7.2 Strengthening of private sector trade .....                                       | 30  |
| 7.3 Infrastructural support .....   | 31  |
| 7.4 Continued support for the Border Development Program .....                        | 31  |
| 7.5 Understand utilization of agriculture investments .....                           | 32  |
| Appendix 1: Eritrea Crop Production, (MT) 1992-2001 .....                             | 35  |
| Appendix 2 .....  | 37  |
| Appendix 3: Area Planted, Yield and Prices for 1995-2001, Humera Area, Ethiopia ..... | 41  |
| Appendix 4: Interviews Conducted.....   | 43  |

**Cover photo:** Ethiopian teff for sale in Asmara's main grain market, June 2002.

All photos by Laura Hammond, 2002.



## Foreword

This study provides an important analysis of the role of the private sector and markets in meeting food security needs. It also comes as a direct response to the USAID Administrator's charge to be creative and test new approaches for emergency response.

In the late 1980s and early 1990s, USAID funded internal purchase programs as a means of meeting food needs in Eritrea and the Tigray region of Ethiopia during times of conflict and crises. Though the nature of conflict is different at this time, the issues and problems are similar. This study provides a vital follow-up to that activity as well as provides key recommendations for the future of activities in the Horn of Africa.

A missing piece in this study is the view from the Gedaref/Kassala, Sudan side. Data was to have been collected, but a renewal of the hostilities on the border between Sudan and Ethiopia prevented this. A similar analysis on the Sudan side is planned for mid-2003 to complete the picture of "triangular trade" and its role in meeting food needs. In addition, the prospects of a peace agreement and settlement of Sudan's civil war brings the possibility of reinvigorating cross-border trade between Sudan, Ethiopia and Eritrea.

Close cooperation with USAID Missions in Ethiopia and Eritrea made this activity a success. Implementation of the Border Development Program (BDP), should conditions permit, would be a start in the implementation of the recommendations for this program. Support for this activity from USAID/OFDA/TAG is highly appreciated.

Brian D'Silva  
USAID/Sudan Task Force



## **Acknowledgements**

The author would like to thank the USAID Missions in Ethiopia and Eritrea for their support for this study. Thanks also to Capt. Chris Isham of the US Embassy Asmara, Tamirat Mulu of USAID/Ethiopia, Pascal Joannes of the European Union Local Food Security Unit-Addis Ababa, and to all who granted interviews and shared information (their names are given in Appendix Four of this document). Finally, the support of Brian D'Silva, USAID/Sudan Task Force, is greatly appreciated. Also, thanks is due to Amiee Henderson, USDA/USAID, for editing the document.

The author would also like to thank Bezaeit Dessalegn for her valuable research assistance, and Dr. Eugenio Marcano of Clark University's Department of International Development, Community and Environment for creating the map of the area.

Of course, any errors are solely the fault of the author.





## Acronyms

|           |  |
|-----------|--|
| ACDI VOCA | Agricultural Cooperative Development International and Volunteers in Overseas Cooperative Assistance |
| ADLI      | Agricultural Development Led Industrialization   |
| ANR SO    | Agriculture and Natural Resources Strategic Objective  |
| BASIS     | Broadening Access and Strengthening Input Market Systems   |
| BDC       | Border Demarcation Commission  |
| BDP       | Border Development Program   |
| CAP       | Consolidated Inter-Agency Appeal   |
| CRSP      | Collaborative Research Support Program   |
| DANIDA    | Danish International Development Agency  |
| EARO      | Ethiopian Agricultural Research Organization   |
| EC        | European Commission  |
| EGB       | Eritrean Grain Board   |
| EGTE      | Ethiopian Grain Trade Enterprise   |
| EMOP      | Emergency Operation  |
| ERREC     | Eritrean Relief and Refuge Commission  |
| GDP       | Gross Domestic Product   |
| GFDRE     | Government of Ethiopia   |
| IRIN      | Integrated Regional Information Network  |
| MOA       | Ministry of Agriculture  |
| MSU       | Michigan State University  |
| MT        | Metric Tons  |
| NDA       | National Democratic Alliance   |
| NFIS      | National Food Information System   |
| NGO       | Non-Government Organization  |
| OAU       | Organization of African Unity  |
| OCHA      | Office for the Coordination of Human Affairs   |
| UN        | United Nations   |
| UN-EUE    | United Nations Emergencies Unit for Ethiopia   |
| UNHCR     | United Nations High Commissioner for Refugees  |
| UNMEE     | United Nations Mission in Ethiopia and Eritrea   |
| USAID     | United States Agency for International Development   |
| WFP       | World Food Program   |



## Photos



**Eritrean refugees repatriate to Tesseney, West Eritrea, June 2002**



**Ethiopian teff being sold in Asmara market, June 2002**



**Traders selling sorghum from Sudan, Tesseney, West Eritrea, June 2002**



**Sudanese trucks load Ethiopian sesame for export through Port Sudan, Humera, Ethiopia, June 2002**



# 1. Introduction

In 2003, the Horn of Africa will face what could very well be the most serious food shortage in the last thirty years. In Eritrea, one-third of the population (1.4 million people) are estimated to be drought-affected, requiring emergency food assistance totaling 290,000 metric tons (MT).<sup>1</sup> In Ethiopia, it is estimated that 11.3 million people will require 1.4 million MT of food in 2003.<sup>2</sup> These shortages can only partially be explained by erratic and delayed rains. Additional factors include increasing impoverishment due to lack of access to cash income and credit, weak marketing systems, and agricultural development policies that have failed to take hold in the most vulnerable areas, resulting in reduced production. In Eritrea, population displacement and return migration have resulted in reduced area planted, while in Sudan a locust infestation in the East in mid-2002 damaged sorghum crops on commercial farms. Amidst this generalized picture of shortage, however, are pocket areas in all three countries where surpluses are available. These must be taken advantage of to provide food to deficit communities as quickly as possible. Surplus areas are essential sources of food not only for domestic markets, but also for food-deficit communities in neighboring countries.

The Mazega, an area of fertile land that trisects northwestern Ethiopia, southwestern Eritrea, and eastern Sudan, has been an important source of sorghum (grown for local and regional markets) and sesame (grown for export) since mechanization began in the mid-1960s. Commercial agriculture has historically stimulated significant regional trade and labor opportunities for migrant workers coming from food-insecure parts of all three countries.<sup>3</sup>

This paper argues that failure to take advantage of local surplus markets in the Mazega triangle will exacerbate the food shortage in areas of northern Ethiopia and throughout Eritrea. Initially based on a field study undertaken from May 28-June 21, 2002 in Ethiopia and Eritrea by a consultant for USAID, the report goes on to consider the current food shortages that have been reported in the Horn. As the 2003 pledging and programming cycle moves into high gear, it will be essential to consider the recommendations contained herein in order to make maximum use of what are certain to be extremely limited resources from all donors.

During the mid-2002 study, visits were made to Tesseney and Barentu in western Eritrea, and to Mekele and Humera in northern Ethiopia, to examine current market and production conditions in areas in and around the Mazega Triangle. Meetings were also held with relevant officials in Asmara (Eritrea) and Addis Ababa and Mekele (Ethiopia) concerning food security and trade issues.<sup>4</sup> In Eritrea, the consultant found growing concern amongst farmers, traders and government and aid officials over the poor performance of the 2002 crops, high prices, and lack of food availability in local markets. In Ethiopia, localized food surpluses were found to be piling up in the northwest with no prospect of being marketed. Low food prices in more

---

<sup>1</sup> In addition to the drought affected, the Government of Eritrea has appealed for food for 910,000 people (including internally displaced people (IDPs), returnees, soldiers to be demobilized and vulnerable urban residents. Total amount of food requested by the Government of Eritrea is 476,000 MT. Source: FEWS Eritrea Food Security Update, Feb. 24, 2003.

<sup>2</sup> By way of comparison, total food needs in both 1985 and 2000 were each 1 million tons. These were the two largest-scale food assistance operations in Ethiopia's history.

<sup>3</sup> McCann: 1990.

<sup>4</sup> A full list of interviewees is given as Appendix 3 of this report.

accessible parts of the country had negated any demand for these stocks, which prior to the outbreak of war in 1998 would have been sold to Eritrea. There is clear evidence that continued border closure between Eritrea and Ethiopia is having an adverse impact on local markets. Use of Sudan, either as a trade partner (in the case of Eritrea) or as an outlet for selling or exporting crops (sorghum and sesame, in the case of Ethiopia), has not been as successful as it could be. There is some indication that the presence of imported food aid in Eritrea may be impeding the use of Sudan as a partner for buying or selling of grain as traders wait to see whether food aid imports or local purchase tenders generate enough business domestically to solve their food availability and pricing problems.

### **1.1 The Geopolitics of Borders**

Geopolitical events of the past decade have shifted the tides of both trade and labor opportunities in the region. Border closures, refugee displacement and repatriation, and armed conflict have significantly impacted regular supply and demand flows. The current political state of affairs has limited the free flow of goods and labor between countries. Key features of this political climate include:

- The border between Ethiopia and Eritrea – closed when the two countries began fighting in 1998 – remains legally sealed despite the signing of a Peace Agreement in December 2000 and the presence of a UN Peacekeeping force along the border.
- Eritrea, accused by Sudan of harboring members of its political opposition, has maintained tense and fragile relations with its neighbor to the west. Although the two governments hold frequent discussions over issues of common concern, formal trade between the countries is negligible and there appears to be little interest on the part of the Eritrean government to develop stronger trade links. On an informal basis, however, significant amounts of grain are being imported from Sudan to Eritrea at a level that appears to be able to stabilize market prices to some degree.
- Eritrea is currently seeking to repatriate all Eritrean refugees who remain in Sudan as a result of the 1971-1991 and 1998-2000 wars with Ethiopia. It is estimated that approximately 82,000 returnees had returned to Eritrea, regularized their status in Sudan, or applied for refugee status with UNHCR in Sudan by December 31, 2002. Assistance will only be provided for those awaiting repatriation to Eritrea and those who have been newly determined to qualify for refugee status after individual screening.<sup>5</sup>
- Recently, Ethiopia and Sudan have begun to work towards better relations. Ethiopia closed its border to Sudan in 1995 in protest over the latter's refusal to extradite three men suspected of involvement in the failed assassination attack on Egyptian President Hosni Mubarek in Addis Ababa. The move to reopen the border gradually in 2001 and 2002 and to establish stronger ties has been largely influenced by Ethiopia's desire for access to a second Red Sea port (besides Djibouti) as an alternative to the Eritrean ports of Assab and Massawa, and Sudan's interest in the Nile River waters.

---

<sup>5</sup> OCHA, 2003 Consolidated Inter-Agency Appeal (CAP) for Eritrea, Nov. 2002, p. 32. and UNHCR Press Release, Feb. 10, 2003.

## 1.2 Plenty of Food in Some Places, Not Enough in Others

The general food availability scenario in Eritrea, Ethiopia and Sudan is precarious even during the best of times. Recurrent famine and chronic poverty are constant threats. Limited market integration has made the local circulation of marketable surpluses extremely important. In 2002, conditions were exacerbated by the factors noted below:

- In Eritrea, where large numbers of civilians remain internally displaced by the war (70,000 living in camps and 210,000 self-settled with host communities) and returning refugees (approximately 50,000) were unable to grow crops during 2001 and 2002, food production was extremely low. Due to late onset and sporadic coverage of rain this year, only 36.6% of the area planned for cultivation was planted.<sup>6</sup> On August 28, 2002, the Government of Eritrea issued an appeal for an additional 400,000 MT of food aid to meet the fourth-quarter food needs of its population. The Eritrean section of the Mazega, particularly the Gash Barka



**The fertile Mazega area (shaded).**

*Map by Eugenio Marciano, Clark University, 2002.*

zone, would typically be relied upon to provide the bulk of the nation's food supply. However, this is also one of the areas that was most affected by the war and population displacement. The reduction in area planted and poor crop performance have resulted in depleted food stocks and extremely high grain prices. On December 20, The WFP-Eritrea

<sup>6</sup> Information Coordination Center: "An appeal for urgent humanitarian assistance in Eritrea," 28 August 2002.

Country Director warned that unless additional pledges were made immediately, food distributions would be disrupted as early as April.<sup>7</sup>

- In 2002, Ethiopia experienced extremely low grain prices due to poor marketing mechanisms, while at the same time requesting emergency food assistance for approximately 5.2 million people (557,204 MT). Many observers assumed that the low prices indicated generally good availability throughout the country. However, it appears that the low prices were caused not by over-supply but by the limited purchasing power of a large proportion of the Ethiopian population. Thus, the low prices masked a situation in which poor farmers were losing their remaining access to cash, cash crop farmers did not have the benefit of high value crops such as coffee and sugar, and poor market distribution mechanisms failed to distribute food to the areas where it was most needed. With such low prices in other parts of the country, farmers from the Mazega were unable to compete with domestic market centers that were more accessible. On August 30, the Government of Ethiopia (GFDRE) and United Nations issued a Joint Flash Appeal requesting 103,583 MT for the September-December period. This figure was revised on 1 October, when the GFDRE issued an appeal for 245,114 MT of food aid for the September-December period. In December 2002, the GFDRE and UN issued a joint appeal document, which identified needs of 1.4 million MT for 2003.<sup>8</sup>

---

<sup>7</sup> IRIN News, Dec. 21, 2002.

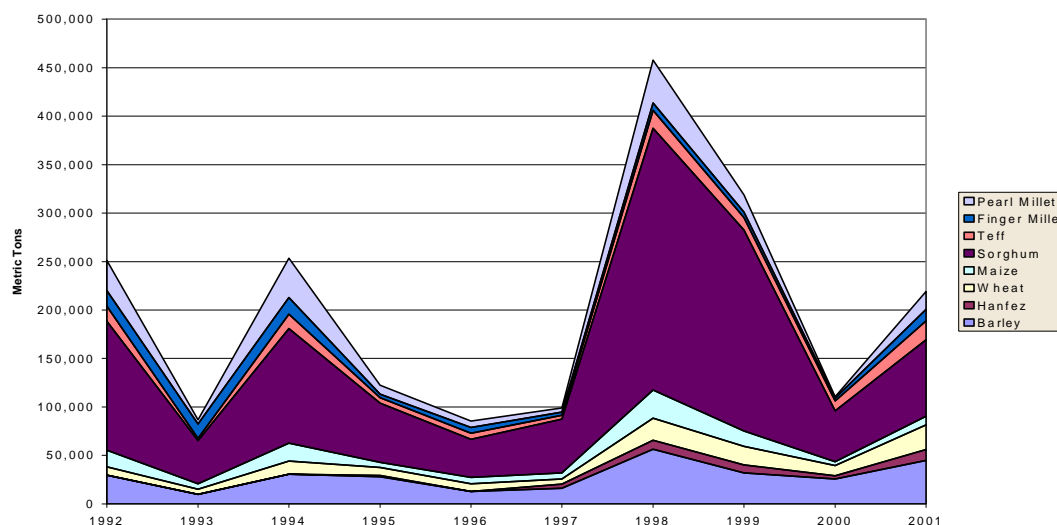
<sup>8</sup> GFDRE, "Emergency Assistance Requirements and Implementation Options for 2003," Nov. 2002.



## 2. Eritrea Food Picture

According to the Consolidated Inter-Agency Appeal for Eritrea, total food crop production in 2002/2003 will be "possibly the lowest in the past ten years."<sup>9</sup> The UN has issued an estimated harvest figure of 54,358 MT, which is only 9% of total food requirements of 600,000 MT. Field monitoring missions carried out by both the Ministry of Agriculture and the UN Food and Agricultural Organization/World Food Programme found greatly reduced area planted, poor performance of rains, and shifts from longer-cycle, higher-yielding crops to shorter-cycle, lower-yielding crops. In many areas high numbers of livestock deaths and deteriorating conditions of remaining stock were reported.

**Chart 1: Eritrean Grain Production, 1992-2001**



Eritrea has had a cereal deficit every year since it became independent in 1993. Cereal production figures have vacillated widely, as can be seen in Chart 1. The best production season was in 1998 with 450,000 MT in total. Most of this, as shown in Chart 1, was sorghum from the west of the country, particularly Gash Barka and Debub regions. Some observers feel that this level of production is probably not sustainable in the long term, although it is difficult to determine what level of production would currently be reasonable to expect, as production since 1998 has been severely disrupted due to population displacement associated with the war with Ethiopia.<sup>10</sup>

In 1992-1993, grain production was reportedly good. During these years, the Eritrean Grain Board bought local surpluses and redistributed them (through monetization) to deficit areas, particularly in Maekel Region. In 1998, redistribution was also carried out to Anseba and Central Zone. Even in 2001, when national production levels were low, some local purchase was

<sup>9</sup> UN 2003 CAP for Eritrea, Nov. 2002, p. 20.

<sup>10</sup> Source: WFP Eritrea. Exact production figures for the 1992-2001 period are given in Appendix 1.

possible. Eritrea typically spends US\$10-15 million each year to purchase food from local markets for redistribution in food-deficit areas. A sizeable portion of this amount comes each year from US Title I contributions.

The 2001 harvest was officially estimated to be 220,000 MT, but some officials believe that a more realistic figure is 160,000-180,000 MT. Even if one were to take the higher number as accurate, subtracting 10% for seeds and 15% for post harvest losses would yield approximately 165,000 MT for consumption. With a total population of 3.1 million, total consumption requirements are 540-560,000 MT of cereals annually. As of October 7, WFP's appeal for 102,537 MT was resourced to 68.33%, leaving a shortfall of 32,472 MT. The US was by far the largest donor, having provided 60,863 MT in confirmed pledges (59.36% of total requirements).<sup>11</sup>

Other donors appear to be more reluctant to provide assistance due to concerns about political repression, imprisonment of members of the Eritrean press and political opposition, delays in scheduling national elections, delays in demobilization and the Eritrean government's perceived intractability over cooperation with some international actors. Whereas the US' approach has been to keep channels of communication open through engagement and provision of assistance, other donors are more hesitant to provide assistance under current conditions. This reluctance has been made manifest not only with regards to food aid, but also concerning development assistance. The Danish development agency, DANIDA, recently terminated its four-year program of technical support to the Ministry of Agriculture. Under this collaborative agreement, approximately \$40 million was provided to the MOA. This ministry is unlikely to be able to continue to carry out essential extension and monitoring functions without this support.

The World Food Program has been providing food through an Emergency Operation (EMOP 10052) for 1,048,404 drought affected and internally displaced persons. In 2003, WFP had planned to shift its assistance away from blanket feeding to more targeted, smaller-scale assistance, reducing the amount of food it channels to one-third of current levels. With such large anticipated needs, it is questionable whether donors will be willing to channel food directly through the Government of Eritrea rather than through WFP. WFP's plans to scale back its involvement in general ration provision may need to be postponed in view of the anticipated needs for 2003.

Eritrea still has approximately 280,000 internally displaced persons and more than 50,000 returnees. Most of these people have not yet been able to engage in productive labor, and thus are dependent upon food aid. In areas where farmers were able to return to their farmland, but could not plant long-cycle crops either due to poor rains or because of their late arrival on their farms, some people planted pulses and potatoes, which are shorter-cycle than grains such as sorghum and maize but also lower-yielding. In mid-2002, WFP received unconfirmed reports that farmers had planted as much as 14,000 MT of potatoes, which if confirmed would represent a major shift away from cultivation of the traditional grain staples (sorghum and teff).

---

<sup>11</sup> For full details of pledge levels, see Appendix 2: Confirmed Contributions through the World Food Programme of the United Nations, 7 October 2002.

Anecdotal evidence suggests that malnutrition was rising in some places as early as mid-2002, but with no national system in place, it is impossible to verify the extent and scope of consumption failure. WFP is assisting efforts to build a national surveillance system. Efforts are also underway to support the finalization of a national food security strategy.

## **2.1 2002 Agricultural Season**

The 2002 early (*azmera*) rainy season began late, particularly in the southwestern lowlands, and the main rains were light and erratic. According to the Government of Eritrea's August appeal (issued by the Eritrean Relief and Refuge Commission, ERREC), "total national cereal harvest this year may not exceed 70,000 MT." As noted above, only 36.6% of available arable land was estimated to have been planted this year. A subsequent assessment in October found that conditions were even worse than had been expected, and the projected harvest was revised downwards to 54,358 MT (see Section 2 above).

In the south and west of the country, poor rainfall was compounded by an increase in striga, a parasitic flowering plant which attaches itself to the roots of sorghum plants, thwarting the growth of cereal seeds. Farmers counter the spread of striga by planting sesame, which they hope to be able to sell in order to gain cash to purchase grain with. This year, the price of sesame was extremely low – half the rate that farmers had expected. The low rate can be partly explained by a low global market price for sesame, although traders have recently reported that sesame prices are now expected to rise (see price tables, last page).

Fluctuations in Gash Barka and Debub, which account for the major portion of agricultural production, have a major impact on local food availability. The largest private farm in Gash Barka region is estimated to cultivate 14,000 ha (35,000 acres). Agricultural officials in Gash Barka expressed concern that the overall productivity of the region may be declining. They noted that in 2001, production was relatively low despite a high area of land planted. Reasons they gave for this included: striga infestation, limited availability of farm machinery (tractors, disk plows, combine harvesters, etc.), nonuse of fertilizers, and low rates of crop rotation.

## **2.2 Refugee Repatriation**

Under a tripartite agreement, UNHCR has been providing repatriation assistance to refugees in Sudan who wish to return to Eritrea since May 2001. Of a total caseload of 150,000 refugees, it is estimated that approximately 90,000 people voluntarily repatriate. In early 2003, UNHCR intends to close the refugee camps in eastern Sudan, some of which have been in existence since the 1970s. Those who choose to remain in Sudan are expected to integrate into cities and towns in the eastern part of the country as well as in Khartoum, the capital city.

Each returnee household has been guaranteed two hectares (approximately 5 acres) of farmland. During the first months of the repatriation operation, most returnees chose to resettle in Gash Barka, particularly around the towns of Tesseney and Guluji. Farmland in this area is of very high quality, and is located close to the Sudan and Ethiopia borders, which could potentially be important partners in cross-border trade. The repatriation operation was halted briefly in mid-2002, as there was a shortage of available land in these areas (some productive land may be

recovered through landmine clearance, but this is not expected to be completed until 2004 or 2005). Arrangements were made to offer land in areas further north and east, which was not of as high quality. Although UNHCR had contracted with the Ministry of Agriculture to provide plowing services to returnees for the 2002 season, actual land preparation was reportedly hampered by the lack of a plan for dispatching tractors. One local government official described the attempts to plow land for the returnees as “chaotic” and unplanned. The official expressed concern that inadequate attention had been paid to the environmental consequences of the resettlement. For the large majority of returnees who were resettled after July, there was not adequate time to plant crops for the 2002 season. Moreover, many returnees do not have experience as farmers, having lived in refugee camps for most or all of their lives. The Government expects many of these returnees to settle in and around the larger towns to try to support themselves through wage-based employment or trade.

### **2.3 Eritrean Government's “Struggle for Development”**

With the expectation that the peace agreement with Ethiopia will hold, and that the defense budget of the country can be scaled back, the Eritrean government has begun to shift its attention to the need to stimulate national food production. Announcing a policy of “Warsaw k’allu” (struggle for development), President Isayas Afewerki has called for the continuation of national service duty for all young men and women. These individuals are to be called into service to perform agricultural work on state-run farms in order to maximize national food production and development. It is uncertain what the reaction of the populace will be – there are indications that the public is beginning to tire of its obligation to work for national rather than personal good, and opposition may increase.

### **2.4 Grain Prices High**

Throughout Eritrea, grain prices are extremely high. The National Food Information System (NFIS) reported in its January-March 2002 Monthly Food Outlook that “Grain prices are generally higher in Asmara, Mendefera and Keren market centers this year when compared to March ‘01.” White (highest quality) sorghum prices had increased by 10% when compared with March 2001, maize had increased by 36% when compared to that of March 2001. The consultant found on average that sorghum prices were two to three times higher than Ethiopian sorghum prices when both currencies were converted to dollar figures.

A trader in Barentu, one of the largest markets in Western Eritrea, reported, “Now the [grain] prices are high, as there is not so much product. Last year [2001] the rain was not good, and people had left due to the war. Some have returned but many remain off their farms.” He estimated that in a good year, the price for a 5 kg tin of sorghum should be 6-7 Nakfa. However, in June 2002 the price was 13-15 Nakfa/tin, or around 300 Nk/100 kg.

As if to illustrate the difficulty that people face in buying grain, the trader turned his attention to a Kunama woman who had come to buy grain. The trader gently advised her that millet, at 13 Nakfa per tin, was cheaper than *wedi aker*, the most common sorghum. After making the sale (the woman insisted on buying the sorghum, perhaps because it was to be used to brew beer for sale), he commented “Millet has become our teff,” implying that people are turning to consumption of millet since teff has become too expensive due to the loss of the Ethiopian supply market.

## ***2.5 Imported Food Aid***

An official in the macroeconomic policy office of the Presidency said that Eritrea had not sought large scale grain trade with Sudan. He explained that this was partly due to the fact that the concessionary terms at which US grain (both wheat and sorghum) is available provide an alternative to trade with Sudan. However, in mid-2002 a consignment of US-donated sorghum delivered to Eritrea was damaged when it was vacuated from the vessel in the port.<sup>12</sup> The Eritrean government petitioned unsuccessfully to get the US to replace the grain. The experience has, the official suggested, raised the possibility that shipments of sorghum may not be sought in the future. It is possible that this experience may lead the Eritrean government to look to Sudan for official sorghum trade in the future.

According to a Ministry of Agriculture official, the presence of large amounts of food aid in the country has helped to stabilize grain prices. He said, "When you compare last year [2001] and this year [2002], the price is the same. Last year there was less production than in 2000, but [there was more] food aid and trade with Sudan. Each source keeps prices constant."

---

<sup>12</sup> Grain is extracted from the vessel using suction machines, then bagged in the port.



### 3. Ethiopia Food Security Situation

In 2002 in western Tigray the onset of the main rains (the area does not have a short *belg* season) was late and coverage was sporadic. In June, Humera farmers reported that compared to the previous year, production was expected to be reduced by 72%. They said that they usually expect sorghum production to reach 100,000 MT and sesame harvest to total 35,000 MT. This year, they expect only 24,000 MT of sorghum, and 17,000 MT of sesame. The poor performance of the rains has been felt throughout most of the country. The situation has prompted the Ethiopian government to issue a preliminary appeal for nearly 1.4 million MT of food aid for 2003.

Food shortages in Ethiopia have been masked by low grain prices. According to a UN Emergencies Unit for Ethiopia report, the low grain prices were related not to a generalized surplus of food throughout the country, but to highly localized surpluses in areas that were unable to market or redistribute them to food deficit areas.<sup>13</sup> According to the report, "local markets proved to be unable to absorb the quantity of grain available and grain purchased by the government, donors and parastatal enterprises was too little to effectively stabilize prices...[this was coupled with] lack of demand due to poverty, chronic food insecurity and limited export possibilities...Most of the chronically food insecure are not major participants in grain markets as they often rely on relief assistance as their main source of food."<sup>14</sup> Thus, in 2002 low grain prices masked the fact that increasing numbers of farmers were losing their purchasing power and were becoming destitute. Those who considered only low grain prices assumed that food was readily available, and did not anticipate increased relief food aid needs in 2003.

Some of the blame for the increasing destitution of farmers in surplus producing areas has been placed on the continued deflation of world coffee prices since early 1999. More and more farmers have been unable to recover their production costs or to repay credit for agricultural extension packages. This has been compounded by the Ethiopian Government's attempts to promote Agricultural Development Led Industrialization (ADLI) through intensified dissemination of nationwide agricultural extension packages. This has had the effect of increasing production in some areas, but has not been accompanied by market development which is necessary to redistribute resources and to keep prices stable. In northern Ethiopia, markets have become further destabilized by the loss of the Eritrean market, in which there had previously been a significant demand for sorghum, teff, pulses, spices, and livestock.

During a visit to the main market at Mekele in early June, a shortage of white teff was observed. The whitest (i.e. highest quality) mixed teff was being sold for 220 birr/100 kg; poorer quality red sorghum was selling for 165 wholesale, and 170 retail. Sorghum (reportedly harvested in Raya) was selling for 160-170 birr. USAID-donated oil was selling for 45 birr/4kg tin, whereas other kinds of imported vegetable oil was priced at 35 kg/tin.

---

<sup>13</sup> UN-EUE: May 2002. "Diminished use of farm inputs and delayed seasonal rains predict reduction in cereal production"

<sup>14</sup> UN-EUE, May 2002.

### 3.1 Surpluses Piling Up at Humera

The collapse in prices throughout the rest of Ethiopia has had a devastating effect on the local economy in western Tigray. Prior to the outbreak of the war with Eritrea, and border closure with Sudan, portions of the grain surpluses from Humera were usually sold in Gedaref (Sudan) or Tesseney (Eritrea) where demand was higher. It is estimated that in 1997, Ethiopia exported 32,000 MT of sorghum to Eritrea. Production and marketing were disrupted during the Ethiopia/

**Table 1: Commercial agricultural production in Humera area, Ethiopia**

|              | Hectares cultivated | Yield in MT    |
|--------------|---------------------|----------------|
| <b>1995</b>  |                     |                |
| Sorghum      | n/a                 | 53,953         |
| Sesame       | n/a                 | 19,922         |
| Cotton       | n/a                 | 3,212          |
| <b>Total</b> | <b>81157</b>        | <b>78,986</b>  |
| <b>1996</b>  |                     |                |
| Sorghum      | n/a                 | 32,120         |
| Sesame       | n/a                 | 17,475         |
| Cotton       | n/a                 | 5,745          |
| <b>Total</b> | <b>105,038</b>      | <b>55,340</b>  |
| <b>1997</b>  |                     |                |
| Sorghum      | n/a                 | 79,470         |
| Sesame       | n/a                 | 17,411         |
| Cotton       | n/a                 | 9,007          |
| <b>Total</b> | <b>108,622</b>      | <b>105,888</b> |
| <b>1998</b>  |                     |                |
| Sorghum      | 91,275              | 81,302         |
| Sesame       | 36,466              | 19,087         |
| Cotton       | 7,151               | 9,007          |
| <b>Total</b> | <b>134,892</b>      | <b>109,396</b> |
| <b>1999</b>  |                     |                |
| Sorghum      | 58,425              | 54,225         |
| Sesame       | 67,839              | 20,248         |
| Cotton       | 3,973               | 4,320          |
| <b>Total</b> | <b>130,237</b>      | <b>78,793</b>  |
| <b>2000</b>  |                     |                |
| Sorghum      | 25,724              | 36,938         |
| Sesame       | 101,368             | 59,933         |
| Cotton       | 8,897               | 10,796         |
| <b>Total</b> | <b>135,989</b>      | <b>107,667</b> |
| <b>2001</b>  |                     |                |
| Sorghum      | 38,164              | 16,721         |
| Sesame       | 67,875              | 9,384          |
| Cotton       | 7,752               | 3,876          |
| <b>Total</b> | <b>113,791</b>      | <b>29,981</b>  |

Source: Humera Office of Agriculture, June 2002.



Eritrea war from 1998-2000. In 2001, the size of the unmarketable surplus in Humera was 30,000 MT.<sup>15</sup> These markets are more attractive than many Ethiopian markets due to poor roads and remoteness from Ethiopian grain market centers.

The loss of the export market to neighboring countries has had a significant impact on grain production in Western Tigray. As Table 1 shows, the area of land cultivated has not fluctuated that much since 1996 (prior to that year area under cultivation was increasing each year as commercial agriculture was gradually restored following the end of the civil war).<sup>16</sup> However, in 2001, production fell precipitously. Farmers said that this was due to the failure of the market, and their inability to tend the fields that they had planted due to lack of cash to pay workers and run machinery. In addition, there was a shortage of workers due to the military mobilization and restrictions on movement imposed during the war by local councils.

In June 2002, the local Humera representative of Guna Trading House plc, a parastatal import/export company with the largest operation in Humera, estimated that a surplus of approximately 23,500 MT of sorghum remained in Humera. With national prices at approximately 53-54 birr/100 kg, and production costs of 70 birr/quintal, traders in Humera could not afford to compete with other Ethiopian market centers. A group of large farmers in Humera reported that sesame production costs were usually 275-325 birr/100 kg, and sorghum was 75 birr/100 kg. With prices at 245 birr and 50 birr, respectively, they were unable to recoup their expenses at June market prices.

Not only were market prices low, labor costs were reported to be extremely high. The commercial farmers in Humera attributed the high wage labor rates to the availability of food aid in the area. During the war, an estimated 32,000 people were displaced from areas along the western border, including Humera town. Those who received free food aid were reportedly not willing to work on the farms at normal rates. The farmers appealed for better food aid targeting practices so that free food could be made available to pregnant women, children, the elderly, and others who were not able to work, thereby preserving the wage labor rates.

In the past, when grain prices dropped, farmers would sell sesame in order to pay their production costs for both sesame and sorghum. With the closure of Eritrean ports to Ethiopian cargo, and a drop in the world sesame price, however, the market for sesame has collapsed.

Another strategy for financing production was for farmers to borrow money from traders at planting time; the loans would be repaid in kind (i.e., with grain) at harvest time. One trader explained that the practice of giving loans helped to create a relationship of loyalty. "[Debtors] must give [the trader] their harvest. Lending cash to farmers during difficult times also creates sense that 'he helped us when we had nothing so we should do business with him now that things

---

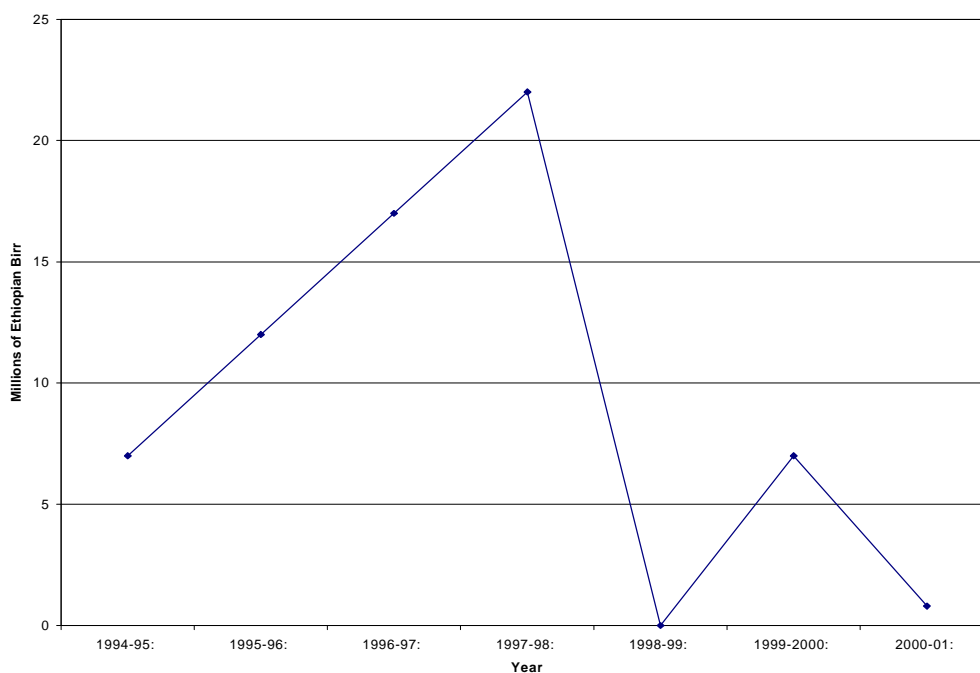
<sup>15</sup> Hammond, Laura and Mulu, Tamirat. April 2001. "Closed Border Restricts Trade and Export Activity in Humera, Northwest Tigray Region of Ethiopia," report submitted to USAID/Ethiopia.

<sup>16</sup> Records of the Woreda Office of Agriculture do not reflect the drop in area planted that most farmers and traders testify to. This is probably due to the fact that the figures are based on land area leased from the government rather than that actually planted. Many farmers reported having left much of the land they had leased fallow due to security concerns and inability to pay production costs.

are better." As much as they may prefer to operate by offering credit to farmers, with the drop in grain prices, traders are unwilling to issue loans to small farmers. Some traders who have offered loans this year insisted on repayment in cash, since the value of the grain had fallen so significantly. Humera farmers reported that some private lenders in Gondar offered loans this year to farmers in Humera at 20% interest. Loans were offered upon presentation of collateral and a post-dated check.<sup>17</sup> These unfavorable borrowing terms have had the effect of discouraging farmers from borrowing; they would rather reduce the area under cultivation than risk serious indebtedness and legal action if they are not able to repay their loans. One trader reported that the traders in Humera had petitioned the government to intervene on their behalf with the banks to facilitate deferred repayment of debts, but no response to this request had yet been received.

The Humera area representative of Guna Import-Export reported that after peaking in 1996, the number of loans Guna provided to sesame farmers in Humera dropped dramatically due to disruption from the war with Eritrea and farmers' inability to repay loans. Chart 2 shows the lending levels since 1994-95. In 2002, Guna did not offer any loans at all because, the representative said, farmers were not able to repay their debts.

**Chart 2: Guna Import/Export plc Loans to Humera Area Farmers**



As noted above, the loss of the use of Eritrean ports has had a devastating impact on the sesame export business from western Tigray. Limited amounts of sesame have been exported through Djibouti, but with the current low world market price of sesame (reportedly due to production

<sup>17</sup> This borrowing option was available only to large farmers, since most small farmers do not have bank accounts.

increases in South Asia), Ethiopia has found it difficult to compete on the global market since transport costs to move the sesame from Humera to Djibouti for purchase on the world market are very high. In 2001, Ethiopia exported 9,410 MT of sesame through Djibouti.

Due to shortage of storage space and poor road conditions during the rainy season, it is vital that all sorghum and sesame stocks are moved out of Humera by the end of June, when the rain starts. Some traders have stores in Gondar and Kombolcha to hold their product in as they wait for a chance to export or sell on the domestic market, but others stand to lose their product if it is sitting out in the open air when the rain begins. A few traders have constructed new warehouses: three 1400 MT capacity structures have been built in Humera, but these structures are not adequate to store all of the available stocks.

### ***3.2 Limited Marketing Possibilities***

Ethiopia's inability to redistribute resources is more than a problem of poor roads. There is a serious need for better collection and dissemination of market information, development of storage facilities and other mechanisms to enable stockpiling of grain. As the above analysis suggests, Ethiopia is not in a position to monetize even modest localized surpluses. The case of Humera illustrates this well. Farmers are unable to compete on the national market, and whereas they would previously have sold their surpluses in Eritrea or (less frequently) Sudan, they now face the annual risk of losing any surplus that is not sold or moved out of the area by June/July when the rains start.

Farmers also complained that they were located too far from Addis Ababa to learn of tenders for large purchases, particularly those offered by donors and international organizations involved in local purchase of food aid.

To assist in market development in the area, ACDI VOCA, an American-based NGO, has recently established two agricultural cooperatives in western Tigray. The Setit Humera Cooperative has 2,149 members (33% of whom are women), and the Dansha-Aurora Cooperative Union has 2,058 members (19.3% of whom are women). The cooperatives provide training, marketing assistance, and access to savings and credit schemes. The cooperatives were established at the end of 2000 (with funding from USAID's Agriculture and Natural Resources Strategic Objective [ANR SO]) and are still building their memberships; thus, the benefits are only beginning to be felt.

Additional steps that could be taken to improve markets include dissemination of price and tender information on a weekly basis via radio, newspaper and Internet. There is also a need for a price support system to purchase from areas where surpluses are greatest.

A major obstacle to market development in border regions is the lack of integration with regional markets. Although in theory the border between Sudan and Ethiopia is open and cross-border trade is possible, export licenses have thus far only been granted to parastatal organizations such as Guna to export sesame and sorghum. This hampers the ability of private traders to interact on the regional market. The only way they can sell their product in neighboring countries is to sell it to the parastatal agencies.

### 3.3 Structural Changes in Tigray Governance

In recognition of the importance of stimulating markets in surplus producing areas, the Tigray Regional Administration has begun to formulate plans for the development of the Humera area. Since the 1970s, very little public or private investment has been made in the commercial farming sector or the infrastructure of Humera. Physically remote from centers of political and economic power, and lacking in telecommunications, postal, transport, and other infrastructure, the area has not been able to live up to its potential as the "breadbasket of Tigray Region." After a bridge across the Tekezze River was destroyed during the 1980s, the area became cut off from central and eastern Tigray during the rainy season. This not only hampered movement of agricultural surpluses from Humera to the rest of food deficit Tigray, not to mention movement of cash crops for export to Eritrean ports (prior to 1998), but also complicated administration of this economically important area. In early 2002, the region split its Western Zone, formerly administered from the town of Endeselassie,<sup>18</sup> into two separate zones. The administration of Humera has been elevated to that of a zone. Under this new arrangement, *woredas* (similar to American counties) are authorized to report certain information directly to the region and have greater control over their own budgets (and do not need approval from the zones for most expenses). This is expected to facilitate greater information flow between this remote area and the Regional Administration.<sup>19</sup> The reorganization will also ensure that personnel in the Humera administration will be better trained and more highly skilled. When the consultant visited the offices of the Tigray Regional Administration, she observed accounting graduates from Mekele University and Millenium College (a new private college in Mekele) participating in a competitive application process for *woreda*-level jobs. Previously, such jobs would not have been attractive to graduates.

The reforms in administration are intended to facilitate the local development plan that is being developed for the Humera area. This plan includes installation of private telephone connections, greater access to electricity, and improved transport routes leading from Humera to other parts of Tigray. In early 2002, the aforementioned bridge across the Tekezze River leading to central Tigray was replaced, and the Humera-Endeselassie road has been significantly improved to allow for year-round passage by trucks.

In response to traders' concerns that the loss of the Eritrean export market, drops in production, and displacement has rendered commercial farming unviable, the Regional Government has reduced the land tax from 44 birr (approximately US\$5) to 30 birr/hectare. The terms of land leases has also been extended, from five to 30 years.<sup>20</sup> This is expected to help relieve the problems of farmers who have had to borrow money to finance their leases and are not able to develop their businesses when the terms of repayment are so short.

To deal with the problems posed by low sesame and sorghum prices, the regional government is exploring the possibilities of diversifying agricultural production through increasing production

---

<sup>18</sup> Endeselassie is also known as Shire.

<sup>19</sup> Humera zone is made up of four *woredas*: Humera, Kafta (including Mai Kadra, Rawyan, Ada Bai, and Bereket), Wolkait and Tsegede (which includes Dansha, the second largest town in the zone and home to more than 5000 former soldiers demobilized in the mid-1990s).

<sup>20</sup> In 1975, all land in Ethiopia was nationalized. The current government, which came to power in 1991, has chosen not to change this policy. Thus, land for commercial farming is leased to private businesspeople by the government.

of cotton and groundnuts, and promoting the livestock and dairy sectors. While some farmers are already attempting to grow new crops, they have expressed some concern that rainfall may not be adequate for other crops, particularly cotton. Those farmers interviewed agreed, however, that development of the livestock sector was a viable option.

In April 2002, the Regional Administration hosted a workshop in Humera to consider development plans for Western Tigray. At the workshop, attended by high level officials of the Regional Administration, the findings of a study carried out by the Ethiopian Agricultural Research Organization (EARO) and the Regional Administration were presented to selected farmers and traders as well as local government officials. The study report, "An Assessment of the Agricultural Production Base, Technological Packages and Innovations, and Intervention Strategies for Commercial Farmers in Kafta-Humera Woreda of Tigray Regional State," is a comprehensive analysis of current agricultural practices and identifies regional priorities for strengthening the potential for the area.<sup>21</sup>

A strategy for mitigating the effects of market volatility, identified in the EARO study, would be to produce goods with high value, such as refined sesame oil or cotton. There is presently no sesame oil refinery in the region. Oil is produced for local consumption with rudimentary oil presses made from wood and powered by camels. There are rumors that a cotton gin may be installed near the large cotton fields around Dansha town, but no source for this operation has been identified.

---

<sup>21</sup> A full copy of the report, in English, is available from the consultant.



#### 4. Ethiopia/Eritrea Trade

The war fought between Eritrea and Ethiopia from 1998 to 2000 and the continued closure of the two countries' common border has had a devastating impact not only at the local but also the national level. In September 2001, the World Bank's Eritrea Country Director identified the impacts of the conflict on Eritrea. Impacts relevant for consideration in the context of this report include:

1. The loss of Ethiopian export market, which accounted for two-third of Eritrea's exports prior to the war
2. The loss of revenue from Assab and Massawa ports which contributed up to 20 percent of the total Eritrean Government revenue before the war
3. The damage to economic and social infrastructure, estimated in July 2000 at close to \$600 million, or the equivalent of a year's national output
4. The loss of crop and livestock output
5. Scarcity of foreign exchange, with reserves falling below one month of import cover by the end of 2000
6. Damage to the Government's finances, with an overall budget deficit of 48 percent of GDP in 2000
7. Damage to the commercial banks' loan portfolios, estimated at \$34 million
8. Loss of development assistance<sup>22</sup>

For Ethiopia, the list of impacts of the war is similar. Although a much larger country, with a population 22 times larger, the aggregate may not seem as alarming as in Eritrea. However, the effects of the war are felt most strongly close to the border. Loss of access to the ports of Assab and Massawa has had a major impact on Ethiopia's ability to import and export commodities. Loss of trade opportunities with Eritrea has had a significant effect, particularly in areas close to the border.

Eritrea's pre-war growth rate (1997) was 7%. In 1998, the rate had already begun to drop, to 4.0%.<sup>23</sup> Inflation, which had been a mere 2% in 1997, rose to 9% in 1998, and by 2000 had reached 18%. Ethiopia's growth rate peaked at 10.6% in 1996, was 5.2% in 1997, and in 2000 was only 2.0%.<sup>24</sup> Inflation between 1992-1999 averaged 3.3% a year,<sup>25</sup> but has since risen to 4-5%.<sup>26</sup>

Much of this decline can be attributed to the increase in military spending by both countries,<sup>27</sup> direct war damage, mobilization of soldiers (each side had an army of 300-350,000 soldiers), declines in private sector activity, the loss of port revenues (for Eritrea) and the freezing of

---

<sup>22</sup> World Bank Statement to the Government of Eritrea and Development Partners Meeting Sept 11-13, 2001 (Ms Oey Astra Meesook, Country Director, World Bank)

<sup>23</sup> Reuters. April 12, 1999.

<sup>24</sup> Economist Intelligence Unit, *World Outlook*, 2001.

<sup>25</sup> World Bank, 2000.

<sup>26</sup> Economist Intelligence Unit, *World Outlook*, 2001.

<sup>27</sup> The World Bank (2000) in Eritrea estimates that defense expenditures rose from an average of ERN 800 million during 1995-97 (12% of GDP) to ERN 1,600 million during 1998-2000 (29% of GDP).

international contributions during the war. Increased military expenditures and reduced revenues resulted in an escalation of the Eritrean national deficit from 15% of GDP (1994-97) to 48% of GDP in 1999.<sup>28</sup> In addition civilians displaced by the war (350,000 in Ethiopia and 1.1 million in Eritrea) affected productivity and placed a heavy burden on national budgets, particularly where donations of international humanitarian assistance came with requirements for cost-sharing by the recipient country. With the cessation of hostilities, most of these trends are expected to be reversed and the growth rate to improve. However, unless the border between Ethiopia and Eritrea is opened, this improvement will continue to be slow and uneven.

The shift of Ethiopian import-export activities to Djibouti and the simultaneous cutting of air and communications links had an immediate and significant impact on economic conditions in both countries. Prior to the war, Assab provided up to 20% of Eritrea's revenue, or 8% of GDP between 1995-97.<sup>29</sup> Lloyd's List estimated that revenues worth US\$300,000 per day were being collected in port fees from Ethiopian transit cargo.<sup>30</sup> 65% of all port traffic (through both Massawa and Assab) was estimated to be Ethiopian transit goods. 90% of Assab port's business was for Ethiopian traffic (either Ethiopian exports or imported goods destined for that country). For the period 1998-2000, the significance of port revenues was only 1% of GDP and 4% of annual government revenues.<sup>31</sup>

Clearly, normalization of relations is in the best interests of both countries, though each says that political conditions are not yet ready for a resumption of trade, transport, and communication links. In response to inquiries from members of the international community, including the United States, Eritrean President Isayas Afewerki has said that he is open to allowing humanitarian supplies destined for Ethiopia to come through Assab. Ethiopia claims that this offer is not genuine, and that it is content to rely on Djibouti while continuing to explore the use of Sudanese and Somali ports.<sup>32</sup>

As in any conflict, however, the business community will likely make the first inroads towards rebuilding relations between the two countries. Despite the fact that the border remains closed, there is clear evidence that informal trade between Ethiopia and Eritrea is continuing on a small scale. In Asmara's main grain market, teff was piled high in bags marked "Product of Ethiopia" and festooned with the Ethiopian flag. Traders reported that the teff was being brought from Ethiopia through Djibouti and Dubai to Massawa, though the exact mechanism for changing hands (whether the trade is being conducted directly between Ethiopians and Eritreans or through a foreign intermediary) is not known. Small amounts of pulses were also observed being sold in Ethiopian bags. When asked about the appearance of Ethiopian grain and pulses on the Eritrean markets, Eritrean government officials appeared unconcerned. They tended to downplay the amounts, and pointed out that only the wealthy city dwellers were able to purchase teff since it is selling for 1000 - 1300 Nk/100 kg, which is more than three times the pre-war price. One official said, "We do not mind where it comes from. Even if we did, we couldn't stop it from coming."

---

<sup>28</sup> World Bank, Oct. 2000.

<sup>29</sup> Ibid.

<sup>30</sup> van Beurden, quoting Lloyd's List 10/21/98.

<sup>31</sup> op. cit.

<sup>32</sup> For a more complete analysis of the impact of the conflict on the two countries, see Laura Hammond, "Economic Impacts of the Ethiopia/Eritrea conflict: A review of available data and proposed Scope of Work," July 2001 (available from the consultant).



Both government officials and traders insist that no significant amounts of goods are coming from Ethiopia directly. While petty trade and common marketing has reportedly started between some villages around Tsorona, it is generally acknowledged that large consignments of grain would be stopped at the border and traders would be arrested. Ethiopian government officials in Tigray said that they did not expect the border to be reopened until the Eritrean government leadership had been replaced or until the Border Demarcation Commission (BDC) completed its mapping and marking of the entire common border. The work of the BDC is not expected to be completed before the end of 2003 or 2004.



## 5. Eritrea/Sudan Trade

Unlike in Eritrea and Ethiopia, agriculture in Sudan's portion of the Mazega triangle is irrigated and much more extensively mechanized. Barring unforeseen pest infestations (in 2002 a serious locust infestation reportedly wreaked serious damage on the sorghum crops) or drought, Sudan can be relied upon to produce ample high quality sorghum to meet both its domestic needs and the demand from neighboring countries. However, due to price differentials grain is sometimes sold in Sudan from Ethiopia.

Eritrea's ethnic connections to Sudan are strong, particularly in areas controlled by the Beni Amer/Beja group, although political relations between the two countries have been tense in recent years. The openness of the Sudan/Eritrea border varies: Sudan is concerned about Eritrea's continued harboring of NDA opposition for organizing and military training. The two governments frequently meet for diplomatic discussions, and Eritrea claims that the border is open, but very little official trade is conducted between the two countries. The World Food Program reportedly imported 300 MT of salt to Sudan in 2001 through a regional purchase program.

Field visits by the author of this report to the western Eritrea border town of Tesseney, and the major market town of Barentu, revealed that significant amounts of sorghum are being imported from Sudan on an informal basis. In Tesseney, interviews were conducted with Beja traders who reported that they regularly import grain from Sudan using trucks with dual registration (they switch the Sudanese and Eritrean license plates as they cross the border). They said that they did not have any problem with security in passing across the border; as one trader put it, "we are the same people," referring to their ethnic ties that transcend boundaries.

According to traders, grain is generally purchased in Gedaref, Sudan, the main commercial farming center, for the equivalent of 265-295 Nakfa/100 kg. Currency exchange (Eritrean Nakfa for Sudanese Pounds) is widely available in Tesseney. According to the traders, grain prices in Kassala, another Sudanese border town closer to Tesseney, are slightly higher (Non-Beja traders reported that they have regular communication with agents in Sudan to follow the grain prices, and that if the prices were favorable, they would enter into regional grain trade. It is likely that for the Beja traders, who avoid paying taxes on grain imported from Sudan by crossing the border far from the main roads, there is a higher profit margin even when prices in Sudan are not much cheaper than in Eritrea.). Small traders in the Tesseney market reported that the traders coming from Sudan sold quintal (100 kg) bags directly off the trucks as they entered the town. Wholesalers said that they were required to pay a local tax of 2 Nakfa/quintal, but it did not appear that they paid import taxes.

Fuel wood and grain are regularly brought into Eritrean markets from Sudan, and are exchanged either for cash or for imported products such as tires, spare parts, etc. Since most of this trade is conducted illegally, accurate numbers of the scale of trade between Eritrea and Sudan are not available. Traders reported that in the past, imported sugar was also traded in exchange for Sudanese sorghum.

In western Eritrean markets, where grain is more readily available as a result of local production and the steady flow of imported Sudanese grain, prices are somewhat lower than in the eastern cities of Keren and Asmara. Traders reported that nearly all of the whiter variety of sorghum available in Tesseney market had been imported from Sudan. White sorghum was selling for 4 Nakfa/kg in Tesseney, cheaper than the redder variety grown in Eritrea. This appeared to be due to the fact that there was not much Eritrean grain available on the market, and because the Sudanese sorghum crop had suffered from head smut (a viral infection which destroys the sorghum seeds) this year. One trader in Barentu, however, said that the Sudanese grain was subject to price fluctuations since trucks and camels carrying contraband grain were vulnerable to being stopped at the border. He acknowledged, however, that Sudanese sorghum was crossing the border in such significant amounts that it could be found in markets all over the country. No teff was seen in the western market towns, presumably because its scarcity has rendered it too expensive for rural people to be able to afford.

Like trade with Ethiopia, Eritrean government officials seem unconcerned by unregulated trade from Sudan, probably because they know that there is nothing that they can do to stop it, and that it provides much-needed food. One official of the Eritrean Grain Board said that there are no legal impediments to trading formally with Sudan to bring sorghum into Eritrea, but that the prices in Sudan were too high for Eritrean markets. A private trader, who imports gum arabic from Sudan, concurred with this opinion, predicting that if Sudanese sorghum prices were low enough to compete with the food being monetized inside Eritrea from US food aid, trade would begin.

The favorable terms of trade of US-imported grain versus Sudanese grain was also cited by an Eritrean government official, who said that it was cost-effective for his government to monetize grain from the US rather than to import it from Sudan. This response suggests that imported food aid may be a major disincentive to regional purchase of surpluses and may also have an effect on hampering market integration and development. Further study of this issue is needed.

While the import of US food aid has helped to stabilize grain prices during and since the end of the war with Ethiopia, prices are still two to three times higher than pre-war levels. At 200-250 Nk/100 kg, Eritrean sorghum was also 150-200% higher than Ethiopian sorghum prices in June 2002.

A major impediment for Eritrean traders to purchasing large consignments of grain from Sudan is the limited availability of credit in-country, and inability to qualify for foreign-currency loans due to a lack of collateral guarantees (This issue will be taken up in more detail in the Recommendations section).

## 6. Ethiopia/Sudan Trade

The loss of access to Eritrean ports and need for a regional trade partner has driven Ethiopia to seek stronger ties with Sudan in recent years. This represents a major shift in foreign policy, as Ethiopia had cut diplomatic relations with Sudan in 1995 following a failed assassination attempt on Egyptian President Hosni Mubarek who was visiting Addis Ababa for an OAU Heads of State meeting. Ethiopia, suspecting Sudan of harboring the three main suspects, expelled Sudanese diplomats and banned cross-border travel and trade.

In the new climate of warmer relations, Ethiopia and Sudan have embarked on a series of agreements that surpass pre-existing cooperation arrangements. Regular meetings have been held on the subject of the Nile Waters (an issue that arguably has the greatest potential to create disagreement between the two countries), and on the possibilities of providing hydroelectricity to Sudan and fuel to Ethiopia. Diplomatic relations have been restored, and Ethiopia has been granted access to Port Sudan on the Red Sea. Ethiopian traders believe that Port Sudan is an attractive alternative or supplement to Djibouti because of the lower transport costs as well as the fact that port charges are favorable. Containerized cargo, for example, is charged a port fee of US\$9-10/MT, whereas in Djibouti the cost is \$14-15/MT. Moreover, for food imports to Northern Ethiopia, Port Sudan may be an attractive alternative port to Djibouti or Berbera.

Sudan has made improvements to the transport infrastructure, improving roads that lead from the Port to Ethiopian entrypoints. The World Food Programme has also entered into negotiations with both governments over the possible importation of food aid through Port Sudan for delivery to northern and northwestern Ethiopia (particularly Tigray and northwestern Amhara Regions). In addition, the World Food Programme has entered into agreements for regional purchase of food commodities from Sudan for delivery in Ethiopia, as well as from Ethiopia to Sudan (the latter with mixed results, as will be discussed below). While such criss-crossing may seem counter-intuitive on a national level, at a local level this movement of local surpluses can be an important means of maintaining food security.

Despite these steps, trade between Ethiopia and Sudan has not taken off as quickly as some observers would have liked. The main obstacles to trade include the poor condition of roads inside Ethiopia leading to the Sudan border, limitations on export licenses for private traders, and lack of market information on both sides of the border.

Western Zone officials in Humera and Regional Administration officials say that in the medium to long term, the Government of Ethiopia plans to improve the roads leading into Sudan. Currently the only passable route into Sudan from Humera is through a crossing at Lugdi. The distance from Humera to Gedaref using this route is 180 km, with another 700 km from Gedaref to Port Sudan. If a bridge were built across the Tekezze River at a place known as Hamdayt (130 km from Humera to Hamdayt), the total distance from Humera to Port Sudan could be reduced by 152 km.

The first large Ethiopian consignments to be exported through Sudan have come from Guna Trading Enterprises, plc. Guna is a parastatal company whose profits go to fund political and development initiatives in Tigray region. Guna is the largest trading company in Humera, and is

typically the largest exporter of sesame. Guna also sells sorghum on the domestic market. In 2001, Guna reportedly sold 20,000 MT of sorghum to traders in Sudan. Traders reported that they bought the sorghum from smaller traders in Humera who did not have export licenses. These traders reported that the terms of trade were favorable because Guna does not pay export taxes to the Ethiopian government (This could not be confirmed by Guna, however). There is some speculation that that grain may have been destined for Eritrea, and that Sudan was being used as a transit center to avoid direct communication between Ethiopian sellers and Eritrean buyers. Guna acknowledges only that the grain was sold in the Sudan. Both Guna and the private traders said that in 2002, negotiations had been underway to carry out a similar sale to Sudanese traders, but that the Sudanese traders cancelled the negotiations when local sorghum prices dropped to levels below that of Ethiopian grain.

In 2002, Guna used Port Sudan for the first time to export 1400 MT of sesame to Turkish markets. In Humera, the consultant observed Sudanese trucks loading Ethiopian sesame for transport into Sudan. According to a Guna representative, 35 Sudanese trucks were used for the operation. Even with this operation, however, he predicted that 4,000 MT of sesame would remain unsold in Humera this year. Traders were making efforts to move the cargo before the rain began to storage facilities in Gondar and other places closer to Djibouti where it could be accessed in the (somewhat unlikely) event that they found buyers during the rainy season.

Despite the promising movement of sesame through Sudan, Ethiopian commercial farmers expressed frustration that Guna was the only company in the area that had been granted an export license. Some traders in Humera said that they had heard that sorghum was being bought near Hamdayt in Sudan for 120 birr/quintal (approximately \$90/MT) but that they could not bring their sorghum to that market without the export license. In addition, they said that they were unable to sell their sorghum either in Ethiopian or Sudanese markets. In June, there was approximately 20,000 MT of sorghum available in Humera for sale, with no potential customers. This represented two-third of total production (production of sorghum having declined in the last year due to lack of markets and continuing disruption due to population displacement associated with the war with Eritrea). 10,000 MT was reportedly sold on the Ethiopian market.

Humera traders believe that they can compete on the Sudanese market, but that there has been some opposition by Sudanese farmers who fear being undercut by imported grain. The largest private trader in Humera said that he could sell grain in Sudan for US\$60 per MT (including transport costs to Gedaref), whereas he had information that Sudanese grain was selling for \$90/MT. However, he believed that the traders had put political pressure on the Sudanese government not to accept grain imports.

This trader had firsthand experience of the difficulties of trade with Sudan. In late 2001, WFP Sudan contracted him to deliver 5,000 MT of sorghum to the border crossing at Lugdi, to be used for school feeding programs in Port Sudan and distribution in the chronically food-deficit western region of Darfur. This order had been justified on the grounds that prices in Sudan during 2001 were very high. By the time the consignment was delivered to Lugdi, however (WFP reported that it took three months for the paperwork to be finalized for the deal), sorghum availability in eastern Sudan had improved, and prices had dropped. The Sudanese government refused to allow the Ethiopian sorghum to be imported. The grain sat in the open air at the border

for five months as political wrangling went on between the Sudanese traders, the Sudanese government, and WFP. Finally, in May 2002, WFP cancelled the order, directing the trader to bring the grain back to his warehouse in Humera. The same day that the grain began to be moved back to Humera, the Sudanese government agreed to accept it, and Sudanese trucks arrived at the border to transport it. The WFP Regional Purchase Officer said that by this time it was too late to cancel the order to return the sorghum to Humera, so the operation was never completed. He said that while the experience had not completely soured WFP's interest in regional trade purchase, he expected that in the future they might try to move smaller amounts of grain or other food commodities.

Although large-scale trade between Ethiopia and Sudan requires an export permit and Letter of Credit, small traders are allowed to import and export up to 2,000 birr (approximately \$350) worth of goods between Ethiopia and Sudan. This figure is consistent with maximum allowable levels of small-scale trade between Ethiopia and its other neighbors as well (including, prior to the 1998 closure of the border, with Eritrea). According to an official of the Regional Bureau of Trade and Industry, 1,760 licenses have been issued in Humera for such small-scale trade. A Protocol Agreement signed by the Ethiopian and Sudanese government lists the items that can be legally traded. The list includes sorghum, vegetables, pulses, cigarettes, farm tools, clothing, salt, honey, and plastic products.

Given the fact that the border between Ethiopia and Sudan is porous and not very heavily patrolled, contraband does pass through away from the main transit roads. According to an unconfirmed report, in April 2002, Ethiopian traders were transporting sorghum to the Sudan border near Lugdi, shifting the grain onto Sudan trucks at night. However, Ethiopian police reportedly found out about the operation and tightened their control of the border, effectively stopping it.

Traders in Humera expressed frustration over the loss of the market with Eritrea. They said that the demand from Tigray is not great enough to enable them to sell all of their sorghum domestically. It is likely that this is due to the fact that in an average year, one-third to half of the population of Tigray receives food aid, and does not interact with the cash-based grain market. The most significant purchases of Humera sorghum are often local purchases from the European Union and other donors. The Ethiopian Grain Trade Enterprise, which has in the past acted to stabilize market prices by purchasing from areas like Humera for monetization in food-deficit markets, has been purchasing grain at lower prices from southern and western Ethiopia for distribution to Tigray.

Traders in Humera expressed concern that if market conditions do not improve, many will face bankruptcy in the coming year. They could not recall a year in which so many farmers have been confronted with such hardship. Some say that they would like to shift some of their cultivation to cotton because they have heard that the United States has granted tariff-free imports of Ethiopian cotton.

When asked about where they thought the opportunities for trade would come from in the future, traders said that the most feasible options would be stimulating Tigrayan grain markets, increasing trade with Sudan, and shifting to export crops. Given the current stalemate between

Ethiopia and Eritrea, they said that they were not expecting official trade relations to be resumed in the near future.



## 7. Conclusion and Recommendations

The future of local surplus grain markets in the border areas of Ethiopia and Sudan, and of supply to Eritrea, depends on the smooth passage of food commodities across the borders. While the degree of openness of borders is directly related to political will on the part of the three governments at the highest levels and may not be significantly affected by local conditions, several steps can be taken to facilitate and prepare the ground for improved relations for trade.

The recommendations that follow focus on four types of interventions:

1. Improvement of market information systems
2. Strengthening of the private trade sector through increased access to credit
3. Infrastructural support
4. Continued support for the Border Development Program
5. Promotion of options for regional purchase

### ***7.1 Improvement of Market Information Systems***

Government and the private sectors in both Eritrea and Ethiopia indicated an enthusiastic interest in improving market information systems. While both countries have mechanisms for disseminating market information and for helping to stabilize grain prices (through the Eritrean Grain Board and the Ethiopian Grain Trade Enterprise), both bodies have severe capacity limitations. In addition, there is a need to develop Market Promotion Departments in the respective Ministries of Agriculture.

Recommendations are as follows:

- 7.1.1 Assistance should be provided to the Eritrean Grain Board to develop the EGB's capacity to analyze and manage the data that it already collects. Training is needed for EGB management in market information system techniques, to manage a computerized network. The EGB made reference to a capacity building project that was implemented during the mid-1990s in Ethiopia by Michigan State University, and would like something similar to be implemented in Eritrea.<sup>33</sup> Such assistance should include a component for dissemination of market price information via newspaper, radio, and Internet media.
- 7.1.2 Following the closure of the Michigan State University project within the Ethiopian Grain Trade Enterprise, the EGTE suffered a drop in its capacity to follow and manage price information. A project to improve market information reporting should be supported, and like the Eritrean version, should include a component for dissemination of market price information via newspaper, radio, and Internet media.
- 7.1.3 ACDI/VOCA's ongoing efforts (supported by USAID) to develop cooperatives in Western Tigray should be strengthened with a market information system. VOCA has

---

<sup>33</sup> The MSU project was closed prematurely over a disagreement between project staff and the Government of Ethiopia about critical reports that the MSU project had written. However, the market information collection and dissemination aspects of the project were extremely valuable.

already developed a proposal for this project, which is available from the author of this report or from VOCA-Addis Ababa. VOCA also works in Eritrea, providing credit schemes. It is possible that market information support could be provided through these schemes (since it is unlikely that the Eritrean government would be interested in the kind of cooperatives that VOCA is developing in Ethiopia).

## **7.2 Strengthening of Private Sector Trade**

The main constraints to development of the private trade sector in the region include limited access to credit, unavailability of export licenses and Letters of Credit for medium and large scale traders, and lack of market information. Recommendations to strengthen the private sector in these areas include:

- 7.2.1 Promotion of regional purchase between the three countries. This can most easily be done between Ethiopia-Sudan and Eritrea-Sudan. However, donors should continue to explore possibilities for promoting Eritrea-Ethiopia trade, either through third countries or by allowing shipments of relief and humanitarian assistance to cross the border in both directions (e.g. food imports through Eritrean ports for Ethiopia, and grain sales from Humera to Eritrea). 2003 will be a year of extremely high relief food needs. It is important that those donors who are in a position to purchase grain regionally do so in order to keep grain prices as stable as possible.
- 7.2.2 Some observers have claimed that the large-scale import and distribution of food aid has had an adverse impact on prices and grain markets in Ethiopia. Definitive proof of this argument is not available. A study is needed to determine the extent, if any, to which imported food may disrupt local grain markets. Given the possible infusion of up to 1.5 million MT, it is urgent to determine the likely impact of imported food aid on local markets. A similar study should be undertaken in Eritrea, to determine whether food aid imports are acting as a disincentive to regional trade.
- 7.2.3 Donors should press the Ethiopian government to expedite the issuing of export licenses to private traders to facilitate trade with Sudan.
- 7.2.4 Microfinance schemes favored by donors do not meet the needs of larger traders. The European Union is in the process of exploring the possibility of providing loan guarantees through international banks to larger traders in order to facilitate private trade. In order for this scheme to be possible, a change in EC Regulation 1292 will need to be made, as currently the EC is only allowed to make loans to governmental partners. This scheme should be supported by the US government as well, in order to generate trade that is not dependent upon contracts by major donors and WFP.
- 7.2.5 The USAID funded Broadening Access and Strengthening Input Market Systems (BASIS) Collaborative Research Support Program (CRSP) project, which examined cross-border trade linkages throughout East Africa, was suspended before it could be extended to the Eritrea/Ethiopia/Sudan situation. This is a vital piece of the regional economic picture that is missing. As soon as political conditions permit, a comprehensive study of trade relations, including cereal, livestock and other commodities, should be undertaken.

### **7.3 *Infrastructural Support***

In order for regional trade to achieve its potential, key infrastructural support is needed. Recommendations for such support include:

- 7.3.1 The bridge over the Tekezzze/Setit River at Humera-Om Hajer will need to be rebuilt. If consent can be secured by the Eritrean and Ethiopian governments in the short term, the assistance of UNMEE may be used to facilitate construction prior to the official opening of the border as was done at the Mereb River crossing at Rama.
- 7.3.2 A new bridge at Hamdayt is needed to be built over the Tekezzze/Atbara River to facilitate transport of surpluses from Humera to Sudan, for onward export through Port Sudan.
- 7.3.3 A comparative port study, which considers the capacities, advantages and disadvantages of using all regional ports (Djibouti, Assab, Massawa, Port Sudan, and Berbera) must be conducted. USAID is well positioned to carry out this study. The study should include information related to berthing, unloading and storage capacities, rates of discharge, charges, and identification of areas to which each port is best suited to serve. This report may serve as a basis for further support for regional ports.

### **7.4 *Continued Support for the Border Development Program***

In 2001, the USAID Eritrea and Ethiopia missions developed a Border Development Program (BDP) to stimulate the local economy in areas affected by the conflict and border closure, as well as to promote confidence building (and ultimately reconciliation) between the two countries. Phase One of the project was carried out largely through reprogrammed funds from both missions. In June 2002, this consultant assisted both countries in revising their plans for Phase Two, which focuses largely on promoting trade within the region. Plans for Phase Two include focused interventions in Gash Barka (Eritrea) and Humera (Ethiopia) to promote market development and prepare for eventual resumption of trade relations. Five million dollars in ESF funds were requested from USAID. Although these funds have become available, the missions' ability to use these funds for BDP-related activities has been called into question by the specter of extremely high food needs in 2003.

- 7.4.1 It is important that the BDP activities are not derailed in 2003. While food shortages in both Eritrea and Ethiopia have been partly caused by poor performance of the main rainy season, poor marketing systems also play a major role in eroding the asset base of small-scale traders and preventing redistribution of localized grain surpluses to grain deficit areas. In October 2002, USAID Ethiopia completed a Contingency Plan for 2003 in which it is strongly argued that development funds should not be cannibalized to benefit emergency programs, as the real problem facing farmers is worsening destitution, erosion of assets and dependency on relief assistance. Every effort must be made to promote local and regional trade so as to protect economic activities of the grain producers in the region.

### ***7.5 Understand Utilization of Agriculture Investments***

The recurrence of food shortage emergencies in the Horn of Africa has understandably left donors wondering what the impact has been of the millions of dollars of investments in agriculture and food security in the years leading up to the 2002-2003 crisis. A study should be carried out to determine what (if any) the impact of these investments has been. The study should also consider the likely effects of the worsening crisis on USAID's development investments in the agriculture and food security sectors.

## References

- Economist Intelligence Unit, *World Outlook*, 2001
- Government of the Federal Democratic Republic of Ethiopia (GFDRE), "Emergency Assistance Requirements and Implementation Options for 2003," Nov. 2002.
- Hammond, Laura. July 2001. "Economic Impacts of the Ethiopia/Eritrea conflict: A review of available data and proposed Scope of Work," July 2001, report submitted to USAID/Ethiopia.
- \_\_\_\_\_ and Mulu, Tamirat. April 2001. "Closed Border Restricts Trade and Export Activity in Humera, Northwest Tigray Region of Ethiopia," report submitted to USAID/Ethiopia.
- Information Coordination Center: "An appeal for urgent humanitarian assistance in Eritrea," 28 August 2002.
- Integrated Regional Information Network (IRIN) News, "Thousands may starve, WFP warns," Dec. 21, 2002.
- McCann, James C. 1990. "A Dura Revolution and Frontier Agriculture in Northwest Ethiopia, 1898-1920," in *Journal of African History*, 31, pp. 121-134.
- Office for the Coordination of Humanitarian Affairs (OCHA), Nov. 19, 2002, Consolidated Inter-Agency Appeal for Eritrea.
- Reuters. April 12, 1999.
- UN-EUE: May 2002. "Diminished use of farm inputs and delayed seasonal rains predict reduction in cereal production."
- van Beurden, Jos. 1998. "Eritrea vs Ethiopia: Border Conflict Between Former Friends," European Centre for Conflict Prevention, quoting Lloyd's List (21/10/98). (Available on the Internet)
- World Bank "Statement to the Government of Eritrea and Development Partners Meeting Sept 11-13, 2001" (Ms Oey Astra Meesook, Country Director, World Bank)
- World Bank, Oct. 2000. "Interim support strategy for the State of Eritrea."



### Appendix 1: Eritrea Crop Production, (MT) 1992-2001

|               | 1992           | 1993          | 1994           | 1995           | 1996          | 1997          | 1998           | 1999           | 2000           | 2001           |
|---------------|----------------|---------------|----------------|----------------|---------------|---------------|----------------|----------------|----------------|----------------|
| Barley        | 29,800         | 9730          | 30,660         | 27,946         | 12826         | 16085         | 56605          | 31855          | 25786          | 44934          |
| Hanfez        | 0              | 0             | 0              | 1280           | 0             | 4504          | 8992           | 8508           | 3197           | 11067          |
| Wheat         | 8600           | 5400          | 13520          | 8333           | 7857          | 5131          | 22945          | 19010          | 10579          | 25423          |
| Maize         | 17100          | 5540          | 18530          | 5352           | 6759          | 6406          | 28986          | 15899          | 4054           | 9051           |
| Sorghum       | 132800         | 44860         | 118280         | 61009          | 39189         | 55316         | 269772         | 207197         | 52370          | 78759          |
| Teff          | 15600          | 2220          | 14840          | 5762           | 6317          | 4150          | 18706          | 13147          | 10415          | 19551          |
| Finger Millet | 16100          | 14720         | 16980          | 3444           | 5764          | 3156          | 7622           | 5402           | 2716           | 12093          |
| Pearl Millet  | 31300          | 4380          | 40590          | 9330           | 6648          | 4332          | 44183          | 17829          | 1515           | 18174          |
| <b>Total</b>  | <b>251,300</b> | <b>86,850</b> | <b>253,400</b> | <b>122,456</b> | <b>85,360</b> | <b>99,080</b> | <b>457,811</b> | <b>318,847</b> | <b>110,632</b> | <b>219,052</b> |





## Appendix 2: Average cereal prices in Eritrea, 1992-2001

### Average/ Teff white

In USD

| Mkt Centers    | 1992         | 1993         | 1994         | 1995         | 1996         | 1997         | 1998         | 1999         | 2000         | 2001         | Average |
|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------|
| Adikeih        | 13.84        | 13.79        |              | 16.68        | 15.63        | 15.84        | 38.05        | 63.16        |              |              | 25.29   |
| Asmara         | 14.47        | 14.89        | 17.00        | 17.42        | 17.37        | 16.47        | 41.95        | 69.16        | 73.89        | 28.74        | 31.14   |
| Assab          | 12.21        | 11.63        | 14.16        | 14.37        | 14.16        | 14.37        | 14.16        | 14.58        | 44.63        |              | 17.14   |
| Keren          | 14.84        | 14.74        | 17.11        | 18.37        | 17.95        | 16.89        | 40.95        |              |              |              | 20.12   |
| Massawa        |              | 14.68        | 16.63        | 17.37        | 17.16        | 17.42        | 35.47        |              |              |              | 19.79   |
| Mendafera      | 13.47        | 13.32        | 15.47        | 16.21        | 14.58        | 15.37        | 39.11        | 66.63        |              |              | 24.27   |
| Adiquala       |              |              |              |              |              | 15.68        | 28.47        |              |              |              | 22.08   |
| Barentu        |              |              |              |              |              | 16.74        |              |              |              |              | 16.74   |
| <b>Average</b> | <b>13.77</b> | <b>13.84</b> | <b>16.07</b> | <b>16.74</b> | <b>16.14</b> | <b>16.10</b> | <b>34.02</b> | <b>53.38</b> | <b>59.26</b> | <b>28.74</b> |         |

### Average/ Teff Red

In USD

| Mkt Centers    | 1992         | 1993        | 1994         | 1995         | 1996         | 1997         | 1998         | 1999         | 2000         | 2001         | Average |
|----------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------|
| Adikeih        | 9.21         | 9.79        | 12.63        | 12.32        | 11.79        | 11.63        | 25.84        | 34.37        | 35.21        | 36.95        | 19.97   |
| Asmara         | 10.84        | 8.37        | 12.16        | 12.42        | 12.16        | 11.79        | 28.95        | 37.53        | 44.21        | 47.37        | 22.58   |
| Assab          |              | 10.16       | 11.58        | 12.68        | 12.37        | 9.95         | 42.68        | 44.74        |              |              | 20.59   |
| Keren          | 12.26        | 11.63       | 15.47        | 15.42        | 14.32        | 12.37        | 27.89        | 38.95        |              |              | 18.54   |
| Massawa        |              | 10.05       | 12.89        | 14.84        | 13.74        | 13.00        | 27.68        | 36.37        |              |              | 18.37   |
| Mendafer       | 9.47         | 8.05        | 11.42        | 12.37        | 11.74        | 11.42        | 26.63        | 36.95        | 44.63        | 41.11        | 21.38   |
| Adiquala       |              |             |              |              |              | 13.16        | 23.05        |              |              |              | 18.11   |
| Barentu        |              |             |              |              |              | 13.11        |              |              |              |              | 13.11   |
| <b>Average</b> | <b>10.45</b> | <b>9.68</b> | <b>12.69</b> | <b>13.34</b> | <b>12.68</b> | <b>12.05</b> | <b>28.96</b> | <b>38.15</b> | <b>41.35</b> | <b>41.81</b> |         |

### Average/ Teff Mixed

In USD

| Mkt Centers    | 1992         | 1993         | 1994         | 1995         | 1996         | 1997         | 1998         | 1999         | 2000         | 2001         | Average |
|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------|
| Adikeih        | 12.53        | 12.47        | 14.53        | 14.47        | 12.95        | 12.11        | 29.95        | 23.68        |              | 61.84        | 21.61   |
| Asmara         | 12.95        | 13.37        | 14.74        | 14.74        | 14.26        | 13.63        | 34.63        | 105.37       | 65.53        | 59.95        | 34.92   |
| Assab          | 11.00        | 10.95        | 13.16        | 13.74        | 13.74        | 15.68        | 39.63        | 55.26        |              |              | 21.64   |
| Keren          | 13.42        | 11.84        | 16.00        | 17.05        | 15.26        | 13.68        | 35.89        | 64.47        |              |              | 23.45   |
| Massawa        | 12.68        | 14.84        | 16.11        | 15.11        | 14.05        | 32.42        |              |              | 36.68        | 48.05        | 23.74   |
| Mendafer       | 12.58        | 11.16        | 13.32        | 14.00        | 12.47        | 12.47        | 32.11        | 56.26        | 60.84        | 54.47        | 27.97   |
| Adiquala       |              |              |              |              |              | 14.32        | 25.84        |              |              |              | 20.08   |
| Barentu        |              |              |              |              |              | 15.00        | 15.00        |              |              |              | 15.00   |
| <b>Average</b> | <b>12.53</b> | <b>12.44</b> | <b>14.64</b> | <b>14.85</b> | <b>13.79</b> | <b>16.16</b> | <b>30.44</b> | <b>61.01</b> | <b>54.35</b> | <b>56.08</b> |         |

### Average/ Sorghum white

In USD

| Mkt Centers    | 1992        | 1993        | 1994        | 1995        | 1996        | 1997        | 1998         | 1999         | 2000         | 2001         | Average |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|---------|
| Adikeih        | 6.05        | 4.58        | 6.26        | 7.00        | 8.58        | 9.16        | 11.53        | 12.05        | 15.89        | 16.58        | 9.77    |
| Adigrat        | 4.74        | 4.47        | 6.37        | 7.16        | 10.42       | 9.89        | 11.42        |              | 11.00        | 16.74        | 9.13    |
| Asmara         | 7.68        | 5.37        | 7.74        | 9.37        | 9.58        | 9.47        | 12.74        | 13.74        | 16.74        | 20.32        | 11.27   |
| Assab          | 10.42       | 9.26        | 9.00        | 11.47       | 9.68        | 9.16        | 11.05        | 19.32        | 23.84        | 28.95        | 14.22   |
| Barentu        | 1.74        | 2.63        | 3.05        | 5.47        | 10.05       | 8.89        | 12.47        | 10.37        | 10.53        |              | 7.25    |
| Keren          | 5.68        | 3.68        | 7.37        | 6.42        | 9.32        | 9.00        | 12.53        | 11.21        | 14.89        | 14.26        | 9.44    |
| Massawa        | 4.79        | 2.63        | 7.58        | 7.11        | 9.84        | 9.58        | 12.68        | 13.63        | 13.63        | 15.84        | 9.73    |
| Mendefera      | 6.58        | 4.89        | 7.47        | 8.74        | 9.47        | 9.21        | 12.21        | 12.84        | 19.11        | 18.05        | 10.86   |
| Nakfa          |             | 3.37        |             | 8.16        | 11.42       | 8.68        |              |              | 9.47         |              | 8.22    |
| Tessenei       | 4.84        | 2.84        |             | 5.26        | 8.63        | 7.37        |              |              | 13.42        | 15.16        | 8.22    |
| Omhaier        |             |             |             |             |             | 6.26        | 7.79         |              |              |              | 7.03    |
| Adiquala       |             |             |             |             |             | 10.16       | 16.63        |              |              |              | 13.39   |
| <b>Average</b> | <b>5.84</b> | <b>4.37</b> | <b>6.86</b> | <b>7.62</b> | <b>9.70</b> | <b>8.90</b> | <b>12.11</b> | <b>11.64</b> | <b>14.85</b> | <b>18.24</b> |         |

### Average/ Sorghum Red

In USD

| Mkt Centers    | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998  | 1999  | 2000  | 2001  | Average |
|----------------|------|------|------|------|------|------|-------|-------|-------|-------|---------|
| Adikeih        |      |      |      |      |      |      | 12.00 | 11.37 | 10.53 | 10.53 | 11.11   |
| Asmara         |      |      |      |      |      |      | 13.05 | 12.37 | 18.95 | 18.42 | 15.70   |
| Berantu        |      |      |      |      |      |      | 12.42 | 9.00  |       |       | 10.71   |
| Keren          |      |      |      |      |      |      | 12.79 | 11.89 | 17.74 | 13.89 | 14.08   |
| Mendefera      |      |      |      |      |      |      | 13.37 | 14.74 | 17.42 | 17.47 | 15.75   |
| Massawa        |      |      |      |      |      |      |       | 11.58 | 18.58 | 13.95 | 14.70   |
| Assab          |      |      |      |      |      |      |       | 9.87  |       |       | 9.87    |
| Agoradat       |      |      |      |      |      |      |       |       | 17.54 | 15.61 | 16.57   |
| <b>Average</b> |      |      |      |      |      |      | 12.73 | 11.55 | 16.79 | 14.98 |         |

### Average/ Sorghum mixed

In USD

| Mkt Centers    | 1992 | 1993 | 1994  | 1995  | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  | Average |
|----------------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| Adikeih        | 5.84 | 4.89 | 6.42  | 7.11  | 9.53  | 9.16  |       | 10.32 | 17.79 |       | 8.88    |
| Adigrat        | 3.89 | 4.42 | 6.47  | 6.32  | 10.26 | 9.63  | 10.53 |       | 17.26 | 16.58 | 9.49    |
| Asmara         | 7.63 | 6.58 | 9.00  | 9.95  | 10.32 | 10.05 | 11.89 |       | 18.00 | 17.21 | 11.18   |
| Assab          | 9.63 | 8.84 | 10.05 | 11.53 | 9.42  | 9.11  |       |       | 21.05 |       | 11.38   |
| Berantu        | 9.42 | 2.47 | 3.32  | 5.47  | 10.00 | 9.37  | 11.68 |       | 17.11 |       | 8.61    |
| Keren          | 9.00 | 3.74 | 4.47  | 6.74  | 10.16 | 10.63 | 12.21 |       | 14.05 |       | 8.88    |
| Massawa        | 6.95 | 2.58 | 7.47  | 8.26  | 9.74  | 10.00 | 13.21 | 11.37 | 15.79 | 16.84 | 10.22   |
| Mendefera      | 6.58 | 5.95 | 8.16  | 9.42  | 9.74  | 9.53  | 12.21 | 18.32 | 25.89 | 21.16 | 12.69   |
| Nakfa          |      | 2.84 |       | 7.32  | 8.79  | 8.95  |       |       |       |       | 6.97    |
| Tessenei       | 8.58 | 3.16 | 2.74  | 7.05  |       | 7.26  |       |       |       | 13.95 | 7.12    |
| Afabet         |      |      |       |       |       | 9.11  |       |       |       |       | 9.11    |
| Adiquala       |      |      |       |       |       | 9.32  |       |       |       |       | 9.32    |
| Senafe         |      |      |       |       |       |       |       |       | 13.68 |       | 13.68   |
| <b>Average</b> | 7.50 | 4.55 | 6.46  | 7.92  | 9.77  | 9.34  | 11.96 | 13.33 | 17.85 | 17.15 |         |

### NOTE:

Missing Values indicate insufficient data available



### Appendix 3: Area Planted, Yield and Prices for 1995-2001, Humera Area, Ethiopia

Source: Ministry of Agriculture, Humera, June 2002

| Production<br>year | Cultivable Crop in Hectare |          |        |          | Yield in Metric Tons |        |        |       |
|--------------------|----------------------------|----------|--------|----------|----------------------|--------|--------|-------|
|                    | Sorghum                    | Sesame   | Cotton | Total    | Sorghum              | Sesame | Cotton | Total |
| 1995 (1987)        | n/a                        | n/a      | n/a    | 81157    | 5395                 | 1992   | 321    | 7709  |
| 1996 (1988)        | n/a                        | n/a      | n/a    | 105038   | 3212                 | 1747   | 574    | 5534  |
| 1997 (1989)        | n/a                        | n/a      | n/a    | 108622   | 7947                 | 1741   | 901    | 10589 |
| 1998 (1990)        | 912752                     | 36465.9  | 7151   | 956368.9 | 8130                 | 1909   | 901    | 10940 |
| 1999 (1991)        | 54517                      | 56171    | 8993   | 119681   | 5422                 | 2025   | 432    | 7879  |
| 2000 (1992)        | 25723.87                   | 101368.1 | 8997   | 136089   | 3694                 | 5993   | 1080   | 10767 |
| 2001 (1993)        | 41763.17                   | 73558.56 | 7862   | 123183.7 | 1672                 | 938    | 388    | 2998  |

| Year | Price Range in Ethiopian Birr/US Dollar |           |           |           |        |     |
|------|---|-----------|-----------|-----------|--------|-----|
|      | Sorghum                                 |           | Sesame    |           | Cotton |     |
|      | Min                                     | Max       | Min       | Max       | Min    | Max |
| 1993 | 70/14                                   | 90/18     | 140/28    | 160/32    | n/a    | n/a |
| 1994 | 90/15                                   | 115/19    | 280/47    | 350/58    | n/a    | n/a |
| 1995 | 128/16                                  | 152/19    | 344/43    | 480/60    | n/a    | n/a |
| 1996 | 60/7.5                                  | 110/13.75 | 140/17.5  | 285/35.63 | n/a    | n/a |
| 1997 | 60/7.5                                  | 110/13.75 | 260/32.5  | 300/37.5  | n/a    | n/a |
| 1998 | 65/8.13                                 | 80/10     | 205/25.63 | 420/52.5  | n/a    | n/a |
| 1999 | 80/10                                   | 130/16.25 | 305/38.13 | 420/52.5  | n/a    | n/a |
| 2000 | 60/7.5                                  | 85/10.63  | 330/41.25 | 350/43.75 | n/a    | n/a |
| 2001 | 40/5                                    | 50/6.25   | 140/17.5  | 230/28.75 | 160/20 | n/a |



## **Appendix 4: Interviews Conducted**

### Eritrea

Ambassador McConnell, US Ambassador to Eritrea  
Vincent LaValle, DCM, US Embassy  
Carol Horning, Acting Mission Director, USAID-Eritrea  
Jeff Allen, USAID-Eritrea  
Maj. Christian A. Isham, US Marine Corps, Defense and Naval Attache, US Embassy-Asmara  
Patrick Buckley, WFP Country Director, Tel. 184735  
Mamadou Mbaye, Deputy Country Director, Tel. 184735  
Warwick Thomson, DANIDA Consultant to the Eritrea Ministry of Agriculture  
Dr. Abraham Kidane, Economic Advisor the Government of Eritrea, Ministry of Macro  
Policy/Economic Cooperation  
Hagos Teklehaimanot, Head, Eritrean Grain Board  
Kiros Menelik, General Manager, SACIF Eritrea Private Limited Co.  
Jim Borton, Political Advisor, United Nations Mission to Ethiopia and Eritrea  
Dr. Mohamed Duale, Head of Sub-Office, UNHCR-Barentu  
Bereket Gebre Tsadik, Tesseney Ministry of Agriculture

### Ethiopia

Werqu Mekasha, Country Director, VOCA-Ethiopia  
Metena Yahya, Private Trader  
Tim Shortley, Chief, FHA/USAID  
Darlene Cutshall, Border Development Project/Southern Tier Initiative Program Manager,  
USAID  
Tamirat Mulu, Field Monitor for Tigray and Amhara Region, USAID FHA  
Daniel Molla, FEWSNet Country Director  
Alemu Asfaw, FEWS Net Addis Ababa  
Dr. Alfred Nhema, Deputy Executive Director, Organization for Social Sciences Research in  
Eastern and Southern Africa (OSSREA)  
Dr. Tegegne Teka, Regional Project Coordinator, OSSREA  
Etsay Gebre Selassie, Deputy Director, Ethiopian Mine Action Office  
Tekeste Wolde Rufael, Head, Foreign Trade Dept., Guna Trading House & Co  
Dr. Mitiku Haile, President, Mekelle University  
Roberto Marchetti, Head, Procurement Unit, World Food Programme  
Madan Thebe, Deputy Head, Mekelle Sub Office (UNV), World Food Programme  
Gebre Selassie Gebre Tsadik, Field Officer, Western Zone, WFP-Mekele  
Alex Gregory, Technical Coordinator, UN Emergencies Unit for Ethiopia  
Benoit Raymakers, Field Officer, UN Emergencies Unit for Ethiopia  
Dechassa Lemessa, Field Officer, UN Emergencies Unit for Ethiopia  
Valerie Browning, Afar Pastoralist Development Association (APDA)  
Maria Strintzos, Relief Society of Tigray (REST)  
Berhane Gebre Egziabher, Relief Society of Tigray

Dr. Solomon Inquai, Speaker, Tigray House of Representatives  
Pascal Joannes, EU Local Food Security Unit  
Tesfaye Hagos, Head, Tigray Regional Bureau of Agriculture  
Gebre Tsadik Mezgina, Ethiopian Grain Trade Enterprise, Mekele  
Tsegu Gebre Tsadik, Head of Planning Dept., Tigray Regional Bureau of Agriculture  
Yusuf Tesfay, Tigray Regional Bureau of Trade and Industry, Mekele  
Wray Witten, Dean of the Law School, Mekele University  
Gebre Meskel, General Manager, Guna Trading Company, Humera  
Gezahi Abate, General Cargo Inspector and agent for Metena Yahya Trading, Humera  
Kalayu Gebre Hiwot, Humera Woreda Chairman  
Iyob Yohannes, Humera Woreda Office of Agriculture  
Alem Gebre Wahad, Western Tigray Zone Administration  
Haile Fisseha, Western Tigray Zone Administration